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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,734	04/16/2004	Frank-Michael Morgenweck	81768/LPK	1353

7590
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04/24/2007

EXAMINER

BEATTY, ROBERT B

ART UNIT

PAPER NUMBER

2852

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/24/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/826,734

Applicant(s)

MORGENWECK ET AL.

Examiner

Robert Beatty

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,8 and 11-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,8,14-23 is/are rejected.
- 7) ☒ Claim(s) 11-13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. Claims 1-4,8,11-23 are objected to because of the following informalities:

in claim 1, line 5, delete "are used".

Appropriate correction is required.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4,8,14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al. in view of Wotton et al. and Teshima.

Liu et al. teach a color image forming apparatus (col.17, lines1-9) comprising a developing device containing a supply of liquid developer 11 (liquid carrier and toner), a liquid developer applicator 12 (transfer device) for coating a roller 14 with the liquid developer (i.e. transferring the developing liquid to the roller 14), heating the liquid developer with a microwave heater 15 for removing the liquid carrier from the liquid developer (col. 7, lines 16-24), forming an image by transferring some of the compacted developer layer to a roller 114 leaving behind a desired image, and transferring again the concentrated liquid developer layer to a printing medium 175. Since there are at least two transfer steps, the microwave heater can be said to act on the developer layer after transfer and before transfer. A fixing

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device is located along the path of the printing medium for heating and fixing the developed image to the printing medium (col.8, lines 1-6). Specifically, Liu et al. discloses most of what is claimed except the liquid developer including an additive having a high absorption for microwaves wherein the liquid mixture would be azeotropic.

Wotton et al. teach an image forming apparatus using a liquid developer wherein the liquid developer has an additive which has a high absorption for microwaves (col. 2, lines 22-33). For example, the liquid developer could be an admixture of water and polyaniline as the high absorption additive (col. 3, lines 36 - col. 4, line 2). Teshima teach a method of producing toner wherein in the production process an admixture of water and aniline. This admixture is azeotropic. (par. 101).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use an additive with a high absorption of microwaves because faster drying can be achieved as taught in Wotton et al. It would have been obvious to one of ordinary skill in the art at the time the invention was made that this admixture is azeotropic as taught in Teshima. In addition, it is believed that aniline is a polymer (repeated structural units) and thus is the same as polyaniline of which the examiner takes Official Notice.

3. Claims 15-23, are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al. in view of Wooton et al. and Teshima as applied to claims 1-4,8,14 and further in view of Behnke et al. (2003/0013034).

Liu et al., Wooton et al. and Teshima taught supra discloses most of what is claimed except 1) controlling at least one physical parameter of the irradiation with microwaves wherein the parameter is correlated with the energy input into the printing medium and specific embodiments of this controlling feature, 2) using more than one resonator and the details related to more than one resonator, and 3) a scatter reduction mechanism. Behnke teach an image forming apparatus using a microwave heater to heat a developed toner image. As described, for example, in claims 5-16, Behnke et al. teach applicant's control over a parameter related to the energy input and the details thereof. As described, for example, in claims 17-25, Behnke et al. uses more than one resonator. As described in claims 27-28, a radiation scatter prevention means is used. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use this type of control with a microwave heater because the microwave energy can be adapted to actual real-time measurements (paragraph 11 - 12). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use more than one resonator because the microwave energy will be distributed evenly over the print sheet (paragraphs 15-16). Finally, it would have been obvious to one of

ordinary skill in the art at the time the invention was made to reduce radiation scatter for safety concerns.

4. Claims 11-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Beatty whose telephone number is (571) 272-2130. The examiner can normally be reached on M-F from 9 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Gray, can be reached on (571) 272-2119. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read "Robert Beatty". The signature is stylized with a large, sweeping "R" and a long, horizontal stroke at the end.

Robert Beatty
Primary Examiner
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April 10, 2007